

INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU2004/000906

A. CLASSIFICATION OF SUBJECT MATTER

Int. Cl. ⁷: H02H 9/02, H01L 39/16

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Please see electronic data base consulted given below.

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

DWPI: IPC H02H 9/02, H01L 39/16, H01F 6/16, H01F 36/16, H01B 12/16, H02H 3/16, H02H 7/16, H02H 9/16 and key words: fault current, excess current, superconductor, phase, neutral and similar terms.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	FR 2621749 A (ALSTHOM) 14 April 1989 entire document	5,7 1-4,8-11
Y		
X	FR 2650078 A (ELECTRICITE DE FRANCE) 25 January 1991 abstract	5
P,Y	WO 2004/038817 A1 (METAL MANUFACTURES LIMITED) 6 May 2004 entire document	1-4,8-11

☒ Further documents are listed in the continuation of Box C

☒ See patent family annex

* Special categories of cited documents: "A" document defining the general state of the art which is not considered to be of particular relevance	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"E" earlier application or patent but published on or after the international filing date	"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"O" document referring to an oral disclosure, use, exhibition or other means	"&" document member of the same patent family
"P" document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

15 September 2004

Date of mailing of the international search report

23 SEP 2004

Name and mailing address of the ISA/AU

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C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	Patent Abstracts of Japan, JP 09-233687 A (NGK INSULATORS LTD) 5 September 1997 Abstract	5
X	US 5699219 A (ARITA et al) 16 December 1997 abstract	5
Y	JP 09-009499 A (HITACHI LTD) 10 January 1997 abstract and figures	1-3,10
Y	Patent Abstracts of Japan, JP 08-316534 A (HITACHI LTD) 29 November 1996 abstract	1-3,10
Y	Patent Abstract of Japan, JP 09-084259 A (CHUBU ELECTRIC POWER CO INC) 28 March 1997 abstract	1-3,10
A	Patent Abstracts of Japan, JP 09-233833 A (TOSHIBA CORP) 5 September 1997 abstract	
A	Patent Abstracts of Japan, JP 11-097260 A (NISSIN ELECTRICAL CO LTD) 9 April 1999 abstract	

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Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a)

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

Please see the extra sheet.

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

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Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box No III:

1. Claims 1-4 and 10 are directed to a fault current limiter comprising:
a series of phase coils and a series of neutral coils located adjacent a superconductive coil for fault current limiting phase faults and neutral earthing faults.,
2. Claims 5 and 11 is directed to a method of current limiting earthing faults/an earth fault current limiter comprising utilising a fault current limiter between the electrical network and ground.
3. Claims 7-9 are directed to a method of current limiting faults in a multi-phase electrical network comprising coupling superconductive fault current limiters in each of the phase lines and the neutral line between a transformer out put and a network input.

The feature common to all of the above three sets of claims is a method of current limiting earthing faults/an earth fault current limiter. However this feature is not novel in the light of many patent specifications. See for example:

(a) Patent abstracts of Japan JP 09-233687 A (b) FR 2621749 A (c) FR 2650078 A (d) US 5699219A (e) US 4438474 A.

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This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report	Patent Family Member
FR 2621749	
FR 2650078	
WO 04038817	
JP 8316534	
JP 9233687	
US 5699219	JP 7322487 CN 1119796
JP 9084259	
JP 9009499	
JP 11097260	
JP 9233833	
<p>Due to data integration issues this family listing may not include 10 digit Australian applications filed since May 2001.</p> <p>END OF ANNEX</p>	